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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,032	10/06/2005	Daniel John Smith	(1171/42503) Case 155-PCT	5582
7590 02/03/2009 Trexler Bushnell Giangiorgi Blackstone & Marr 105 West Adams Street Chicago, IL 60603				
EXAMINER SCHATZ, CHRISTOPHER T				
ART UNIT		PAPER NUMBER		
1791				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/527,032

Applicant(s)

SMITH ET AL.

Examiner

CHRISTOPHER SCHATZ

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) 7-24 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/8500)
Paper No(s)/Mail Date 3/8/05; 8/3/05; 3/6/06; 12/4/06; 6/30/08
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-6 in the reply filed on October 29, 2008 is acknowledged. Claims 7-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Title

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The elected claims are not drawn to method of forming a conduit.

The following title is suggested: "Method of Encapsulating a Conductor with a Ribbon".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "a groove for at least partially receiving each of said at least one conductor and the layer of ribbon over it". There is insufficient antecedent basis for this limitation in the claim. None of the limitations that claim 5 depend upon

recite the presence of a ribbon layer over the conductor. It is recommended that the applicant amend claim 5 to recite that the step of folding the ribbon forms a layer of ribbon over the conductor.

Claim 6 recites the limitation "passing the folded film though at least one set of rollers". There is insufficient antecedent basis for this limitation in the claim. None of the limitations that claim 6 depend upon recite the presence of a folded film. It is recommended that the applicant replace the term "film" with "ribbon".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nguyen (US 5502287).

As to claims 1 and 2, Nguyen discloses a method of forming a film comprising: providing a thin polymer ribbon 60, positioning a pair of conductors 52, 54 adjacent to and substantially parallel with said ribbon, folding said ribbon substantially in half parallel with said ribbon such that a first of said pair of conductors is adjacent to and encapsulated in said fold, and a second of said pair of conductors is spaced from said first conductor and encapsulated in said fold (figure 5b; column 6, line 66 – column 7,

line 22), and thermally welding said folded ribbon to permanently encapsulate said at least one conductor (column 5, lines 55-61; column 8, lines 23-27).

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Eisler (US 3317657).

As to claims 1 and 2, Eisler discloses a method of forming a film comprising: providing a thin polymer ribbon 45, positioning a pair of conductors 44 adjacent to and substantially parallel with said ribbon, folding said ribbon substantially in half parallel with said ribbon such that a first of said pair of conductors is adjacent to and encapsulated in said fold, and a second of said pair of conductors is spaced from said first conductor and encapsulated in said fold, and thermally welding said folded ribbon to permanently encapsulate said at least one conductor (figures 9-11, column 8, lines 50-71).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen as applied to claims 1 and 2 above, and further in view of Brerein (US 4468089).

Nguyen discloses the limitations of claims 1 and 2 as discussed above, but the reference is silent as to thermal welding comprising passing the folded ribbon between a pair of heated rollers wherein said rollers apply pressure to squeeze the folded ribbon

together. Brerein discloses method of encapsulating a conductor 11 between two polymer ribbons 16, 17, wherein the edges of said ribbons that protrude beyond the conductor are heat sealed using a pair of rollers. Using a pair of rollers to heat seal edges of the ribbon produces a good bond because a constant, even pressure can be applied to the sealing edges (column 2, lines 58-68). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to thermally weld the folded ribbon of Nguyen by passing said ribbon between a pair of heated rollers such that said rollers apply pressure to squeeze said folded ribbon as taught by Brerein above in order to achieve the benefits discussed above.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen and Brerein as applied to claims 1, 2 and 3 above, and further in view of Eller et al. (US 3902938).

Nguyen and Brerein disclose the limitations of claims 1, 2 and 3 as discussed above, but the references are silent as to a method wherein at least one of the pair of rollers includes a groove for at least partially receiving each of said at least one conductor and layer of ribbon. Eller discloses a method of folding a ribbon 12 in half over a conductor (figures 1 and 5) such that said conductor is encapsulated in said fold, and sealing said folded ribbon to permanently encapsulate said conductor. Sealing is performed by a pair of rollers, wherein at least one of said rollers includes a depressed region (figure 6, region of roller is depressed from ridges 52) for receiving at least one conductor and the ribbon layer over it (figure 6; column 3, lines 1-10). At the time the invention was made it would have been obvious to one of ordinary skill in the art to

modify the method of Nguyen as modified by Brorin such that at least one of the rollers includes a groove for at least partially receiving each of said at least one conductor and ribbon over it as taught by Eller above because such a modification allows the roller to thermally weld the ribbon without applying unnecessary or unneeded pressure to the conductor(s).

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen as applied to claim 1 above, and further in view of Xu et al. (US 5342991).

Nguyen discloses the limitations of claim 1 as discussed above, and the reference further discloses that it is desirable to form an encapsulated conductor that exhibits high flexibility (column 1, line 62 - column 2, line 3). It is unclear if Nguyen discloses a method wherein a crease is formed substantially midway along the folded ribbon while said ribbon is softened and after thermal welding occurs. Xu discloses a method for making a conductor encapsulated in a polymer ribbon (figure 1, column 3, lines 6-19), wherein a crease 34 (or any of figures 6-15) is formed in said ribbon after encapsulation of the conductor (column 4, lines 20-20; column 2, line 64 - column 3, line 5). Formation of a crease (or multiple creases) increases the flexibility of the ribbon (column 1, line n61 - column 2, line 14). At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the method of Nguyen by forming a crease substantially midway along said folded ribbon as taught by Xu in order to increase the flexibility of Nguyen's ribbon as doing such decreases the stress imparted upon said ribbon during bending. Additionally, it would have been obvious to one of ordinary skill in the art to form the crease after thermal welding while the ribbon is

still soft because creasing the ribbon while softened requires less force than creasing while the ribbon is not soft.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen and Xu as applied to claims 1 and 5 above, and further in view of Abbott (US 2361374).

Nguyen and Xu disclose the limitations of claims 1 and 5 as discussed above, but the references are silent as to the specific manner in which a crease is formed. Abbott discloses a method for encapsulating a conductor within a polymeric ribbon, said method further comprising forming a crease in the ribbon (28a or 29a) after the encapsulation of the conductor (figures 17-21). At the time the invention was made it would have been obvious to one of ordinary skill in the art to form the crease disclosed by Nguyen as modified by Xu by passing the folded ribbon through at least one set of crease rollers wherein said rollers have a shape according to the profile of the crease in the creasing region as taught by Abbott. Creasing with rollers as disclosed by Abbott prevents the non-creased portions of the ribbon from stretching, thus increasing the integrity of the creased sheet (page 6, column 2, lines 8-12).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER SCHATZ whose telephone number is 571-272-6038. The examiner can normally be reached on Monday through Friday 9 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER SCHATZ/
Examiner, Art Unit 1791

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791